What is claimed is:

1. An absolute humidity sensor comprising:

a substrate having a cavity;

a membrane formed on the substrate;

a resistor formed on the membrane;

electrode pads formed on the membrane, for electrically connecting with the resistor; and

a passivation film formed on an entire surface of the resistor to cover the resistor.

2. The absolute humidity sensor of claim 1, wherein the membrane is formed of any one of SiO_2, Si_3N_4, SiO_xN_y, and $SiO_2/Si_3N_4/SiO_2$.

3. The absolute humidity sensor of claim 1, wherein the resistor is formed of one or more of Ti, Pt, Ni, Ni-Cr, and VO_2.

4. The absolute humidity sensor of claim 1, wherein the passivation film is formed of any one of SiO_2, Si_3N_4, SiO_xN_y, phosphor silicate glass (PSG), and polyimide.

5. The absolute humidity sensor of claim 1, further comprising a thermal conductive film formed on a region of the passivation film where the resistor is formed.

6. The absolute humidity sensor of claim 5, wherein the thermal conductive film is formed on any one of Al and Au.

7. An absolute humidity sensor comprising:

a substrate having a first cavity and a second cavity in a predetermined region;

a membrane formed on the substrate;

a humidity sensing element formed on the membrane where the first cavity is formed, for detecting humidity exposed to the air, having a variable resistance value depending on the detected humidity; and

a temperature compensating element formed on the membrane where the second cavity is formed, for compensating for the resistance value of the humidity sensing element.

8. The absolute humidity sensor of claim 7, wherein the humidity sensing element and the temperature compensating element include:

a resistor formed on the membrane;

electrode pads formed on the membrane, for electrically connecting with the resistor; and

a passivation film formed on an entire surface of the resistor to cover the resistor.

9. The absolute humidity sensor of claim 8, wherein the

membrane is formed of any one of SiO_2, Si_3N_4, SiO_xN_y, and $SiO_2/Si_3N_4/SiO_2$.

10. The absolute humidity sensor of claim 8, wherein the resistor is formed of one or more of Ti, Pt, Ni, Ni-Cr, and VO_2.

11. The absolute humidity sensor of claim 8, wherein the passivation film is formed of any one of SiO_2, Si_3N_4, SiO_xN_y, phosphor silicate glass (PSG), and polyimide.

12. The absolute humidity sensor of claim 7, further comprising a thermal conductive film formed on a region of the passivation film where the resistor is formed.

13. The absolute humidity sensor of claim 12, the thermal conductive film is formed on any one of Al and Au.

14. The absolute humidity sensor of claim 7, further comprising a cap formed over the humidity sensing element and the temperature compensating element to cover the entire surfaces of the humidity sensing element and the temperature compensating element, for separating the humidity sensing element and the temperature compensating element from each other and sealing them therein.

15. The absolute humidity sensor of claim 14, a shielding film is formed in a central region of the cap to separate and seal the humidity sensing element and the temperature compensating element.

16. The absolute humidity sensor of claim 14, a hole is formed in a region of the cap, where the humidity sensing element is formed, to pass through external humidity.

17. The absolute humidity sensor of claim 14, wherein the cap is made of silicon.

18. The absolute humidity sensor of claim 7, further comprising:

a stem joined with a lower portion of the substrate, having pins for electrically connecting with the outside;

a wire for electrically connecting the electrode pads of the humidity sensing element and the temperature compensating element with the pins of the stem; and

a metal shield case formed on an upper portion of the stem to cover an entire surface of the stem including the humidity sensing element and the temperature compensating element.

19. The absolute humidity sensor of claim 18, a hole is formed in a region of the stem, where the humidity sensing

element is formed, to pass through external humidity.

20. The absolute humidity sensor of claim 18, a hole is formed in the shield case to pass through external humidity.